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Claims

[c1] A tunnel notcher and guidewire delivery device, comprising:
an elongate member with proximal and distal ends and an inner lumen extending therebetween, the inner lumen being adapted to receive a guidewire; and
a cutting element disposed on a distal portion of the elongate member and adapted to remove bone within an opening of a bone tunnel.

[c2] The device of claim 1, wherein a distal portion of the distal end of the elongate member is substantially tapered.

[c3] The device of claim 2, wherein the cutting element is disposed proximal to the substantially tapered distal portion of the elongate member.

[c4] The device of claim 1, wherein the cutting element is substantially wedge-shape and extends distally outward from the elongate member.

[c5] The device of claim 4, wherein the cutting element includes a distal-facing surface that is disposed at an acute angle with respect to a longitudinal axis of the

elongate member.

[c6] The device of claim 5, wherein the distal-facing surface is substantially concave.

[c7] The device of claim 4, wherein the angle between the cutting element and the longitudinal axis of the elongate member is less than 90°.

[c8] The device of claim 7, wherein the angle is in the range of about 20° to 70°.

[c9] The device of claim 1, wherein the cutting element includes a base portion coupled to the elongate member and a cutting edge positioned a distance apart from the elongate member.

[c10] The device of claim 9, wherein the cutting edge is positioned distal to the base portion.

[c11] The method of claim 9, wherein the cutting edge that is positioned a distance apart from the elongate member, and it has a length that is less than a diameter of the elongate member.

[c12] The device of claim 1, wherein the cutting element is adapted to create a notch in bone having a substantially semi-circular shape.

[c13] The device of claim 1, further comprising a plurality of indicia formed on a distal portion of the elongate member and adapted to indicate a depth of the elongate member within a bone tunnel.

[c14] The device of claim 1, further comprising a handle disposed on a proximal portion of the elongate member.

[c15] The device of claim 14, wherein the handle extends in a direction transverse to a longitudinal axis of the elongate member.

[c16] The device of claim 1, further comprising a locking mechanism adapted to lock the guidewire in a fixed position with respect to the elongate member.

[c17] The device claim 16, wherein the locking mechanism is formed on a handle mated to the proximal end of the elongate member.

[c18] The device of claim 17, wherein the locking mechanism comprises a threaded member disposed within a threaded bore formed in the handle, the threaded bore being in communication with the inner lumen of the elongate member.

[c19] A method for preparing a bone tunnel, comprising: inserting a bone plug into a bone tunnel;

positioning a tunnel notcher and guidewire delivery device between the bone plug and a sidewall of the bone tunnel;

removing a portion of bone to create a notch in an opening of a bone tunnel, the notch being effective to facilitate placement of a bone screw within the bone tunnel for securing the bone plug therein; and

removing the tunnel notcher and guidewire delivery device such that a guidewire remains positioned between the bone plug and the bone tunnel adjacent to the notch.

[c20] The method of claim 19, wherein the notch has a substantially semi-circular shape.

[c21] The method of claim 19, further comprising delivering a bone screw along the guidewire to engage bone at the notch, and to secure the bone plug within the bone tunnel.

[c22] The method of claim 19, wherein the guidewire is disposed within the tunnel notcher and guidewire delivery device during positioning of the tunnel notcher and guidewire delivery device between the bone plug and the bone tunnel.

[c23] The method of claim 22, wherein the guidewire is in a releasably fixed position with respect to the tunnel

notcher and guidewire delivery device during positioning of the tunnel notcher and guidewire delivery device between the bone plug and the bone tunnel.

[c24] The method of claim 23, further comprising a locking mechanism formed on the tunnel notcher and guidewire delivery device and adapted to releasably fix the guidewire with respect to the tunnel notcher and guidewire delivery device.

[c25] The method of claim 24, wherein the locking mechanism is coupled to a handle formed on the tunnel notcher and guidewire delivery device.

[c26] The method of claim 25, wherein the locking mechanism comprises a threaded member disposed within a threaded bore formed in the handle, the threaded bore being in communication with an inner lumen formed in the tunnel notcher and guidewire delivery device and containing the guidewire.

[c27] The method of claim 19, wherein a distal portion of the tunnel notcher and guidewire delivery device is substantially tapered to allow the distal portion to be positioned between the bone plug and the sidewall of the bone tunnel.

[c28] The method of claim 19, further comprising a cutting el-

ement formed on the tunnel notcher and guidewire delivery device and adapted to form the notch in the bone tunnel.

[c29] The method of claim 28, wherein the cutting element includes a cutting edge that is positioned a distance apart from the elongate member, and that has a length that is less than a diameter of the elongate member.

[c30] The method of claim 28, wherein the cutting element extends distally outward from the tunnel notcher.

[c31] The method of claim 30, wherein the cutting element is substantially wedge-shaped and includes a distal-facing surface that is disposed at an acute angle with respect to a longitudinal axis of the tunnel notcher.

[c32] The method of claim 31, wherein the angle is less than 90°.

[c33] The method of claim 19, further comprising a plurality of indicia formed on a distal portion of the tunnel notcher and guidewire delivery device and adapted to indicate a depth of the tunnel notcher and guidewire delivery device within a bone tunnel.